Appl. No. 10/731,673
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PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1   1. (Currently amended): A method of searching unstructured data stored in a
2   database, the method comprising:
3   storing a plurality of electronic records in a common repository of electronic
4   records in the database that provides an audit trail that cannot be altered or disabled by users
5   associated with the database, wherein each electronic record comprises unstructured data stored
6   in a character large-object (CLOB) format in a column of a table of the database;
7   generating a first graphical user interface and displaying the first graphical user
8   interface on a display device, the first graphical user interface configured to enable users to
9   identify one or more reference to sections of unstructured data within the plurality of electronic
10   records stored in the database as elements of security rules;
11   receiving information from a user via the first graphical user interface identifying
12   a reference to a section of unstructured data within an electronic record as an element of one or
13   more security rules;
14   generating the one or more security rules in response to the information from the
15   user input-identifying one or more elements the reference to a section of [[in]] unstructured data
16   within the electronic record as an element[[s]] of the one or more security rules;
17   creating a security protocol that protects the plurality of electronic records stored
18   in the database against unauthorized access based on the one or more security rules;
19   creating a query designed to identify a set of electronic records stored in the
20   database that meet criteria designated in the query;
21   prior to executing the query, modifying the query in accordance with the security
22   protocol to create a modified query that includes the reference to a section of unstructured data

23   within the electronic document identified by the user as an element of the one or more security

24   rules; and

25   running the modified query against the unstructured data of the plurality of

26   electronic records stored in the database.

1   2. (Currently amended): The method of claim 1 further comprising:

2   generating a second graphical user interface and displaying the second graphical

3   user interface on the display device, the second graphical user interface configured to enable

4   users to identify one or more references to sections of unstructured data within the plurality of

5   electronic records stored in the database as elements of an intermediate index that indirectly

6   indexes into one or more of the sections of unstructured data within the plurality of electronic

7   records;

8   allowing receiving information from a user to identify via the second graphical

9   user interface identifying [[the]] one or more elements references to sections of in the

10   unstructured data of the electronic record as indexed elements of the intermediate index; and

11   allowing a user to generate generating the one or more security rules based on the

12   indexed elements of the intermediate index.

1   3. (Currently amended): The method of claim 1 wherein access to electronic

2   records in the common repository is automatically granted unless the security protocol restricts

3   such access; and

4   wherein the security protocol comprises a plurality of security rules that restrict

5   access to the electronic records within the database based on content of one or more sections of

6   unstructured data within the electronic records whose corresponding references are identified as

7   elements of the plurality of security rules.

1   4. (Currently amended): The method of claim 1 wherein access to electronic

2   records in the common repository is automatically denied unless the security protocol grants

3   such access; and

4   wherein the security protocol comprises a plurality of security rules that grant

5   access to the electronic record within the database based on content of one or more sections of

6   unstructured data within the electronic records whose corresponding references are identified as

7   elements of the plurality of security rules.

1   5. (Currently amended): The method of claim 1 wherein the plurality of

2   electronic records are generated from multiple data sources prior to committing a database

3   transaction to the database and in response to intercepting data from the non-committed database

4   transaction.

1   6. (Currently amended): The method of claim 5 wherein one or more fields of an

2   electronic record in the plurality of electronic records are filled with XML data based on a

3   predefined mapping of the fields to the multiple data sources.

     7. (Canceled)

1   8. (Previously Presented): The method of claim 1 wherein the unstructured data

2   comprises well-formed XML documents stored within the column of the table stored in the

3   database.

1   9. (Original): The method of claim 1 further comprising allowing a user to

2   enable and disable the security protocol.

1   10. (Currently amended): A computer system for searching unstructured data

2   stored in a database, the computer system comprising:

3   a processor;

4   a database; and

5   a computer-readable memory coupled to the processor, the computer-readable

6   memory configured to store a computer program;

7   wherein the processor is operative with the computer program to:

8   (i)   store a plurality of electronic records in a common repository of electronic

9   records in the database that provides an audit trail that cannot be altered or disabled by

10   users associated with the database, wherein each electronic record comprises unstructured

11   data stored in a character large-object (CLOB) format in a column of a table of the

12   database;

13   generate a first graphical user interface and displaying the first graphical

14   user interface on a display device, the first graphical user interface configured to enable a

15   user to identify one or more reference to sections of unstructured data within the plurality

16   of electronic records stored in the database as elements of security rules;

17   receive information from a user via the first graphical user interface

18   identifying a reference to a section of unstructured data within an electronic record as an

19   element of one or more security rules;

20   (ii)   generate [[a]] one or more security rules in response to the information

21   from the user input identifying one or more elements the reference to a section of [[in]]

22   unstructured data within the electronic record as an element[[s]] of the one or more

23   security rules;

24   (iii)   create a security protocol that protects the plurality of electronic records

25   stored in the database against unauthorized access to the unstructured data within each

26   electronic record based on the one or more security rules;

27   (iv)   create a query designed to identify a set of electronic records stored in the

28   database that meet criteria designated in the query;

29   (v)   modify the query in accordance with the security protocol to create a

30   modified query prior to executing the query that includes the reference to a section of

31   unstructured data within the electronic document identified by the user as an element of

32   the one or more security rules; and

33   (vi)   run the modified query against the unstructured data of the plurality of

34   electronic records stored in the database.

1   11. (Currently amended): The computer system of claim 10 wherein the

2   processor is further operative with the computer program to<u>:</u>

3   <u>generate a second graphical user interface and displaying the second graphical</u>

4   <u>user interface on the display device, the second graphical user interface configured to enable a</u>

5   <u>user to identify one or more references to sections of unstructured data within the plurality of</u>

6   <u>electronic records stored in the database as elements of an intermediate index that indirectly</u>

7   <u>indexes into one or more of the sections of unstructured data within the plurality of electronic</u>

8   <u>records;</u>

9   ~~allow~~ <u>receive information from</u> a user ~~to identify~~ <u>via the second graphical user</u>

10   <u>interface identifying</u> [[the]] one or more ~~elements~~ <u>references to sections of</u> ~~in the~~ unstructured

11   data <u>of the electronic record</u> as indexed elements <u>of the intermediate index;</u> and

12   ~~allow a user to~~ generate the one or more security rules based on the indexed

13   elements <u>of the intermediate index</u>.

1   12. (Currently amended): The computer system of claim 10 wherein the

2   processor is further operative with the computer program to<u>:</u>

3   automatically grant access to electronic records in the database unless the security

4   protocol restricts such access<u>;</u> and

5   wherein the security protocol comprises a plurality of security rules that restrict

6   access to the electronic records within the database <u>based on content of one or more sections of</u>

7   <u>unstructured data within the electronic records whose corresponding references are identified as</u>

8   <u>elements of the plurality of security rules</u>.

1   13. (Currently amended): The computer system of claim 10 wherein the

2   processor is further operative with the computer program to<u>:</u>

3   automatically deny access to electronic records in the database unless the security

4   protocol grants such access<u>;</u> and

5   wherein the security protocol comprises a plurality of security rules that grant

6   access to the electronic records within the database <u>based on content of one or more sections of</u>

7 unstructured data within the electronic records whose corresponding references are identified as

8 elements of the plurality of security rules.

1   14. (Currently amended): The computer system of claim 10 wherein the plurality

2 of electronic records are generated from multiple data sources prior to committing a database

3 transaction to the database and in response to intercepting data from the non-committed database

4 transaction.

1   15. (Currently amended): The computer system of claim 14 wherein one or more

2 fields of an electronic record in the plurality of electronic records are filled with XML data based

3 on a predefined mapping of the fields to the multiple data sources.

            16. (Canceled)

1   17. (Previously Presented): The computer system of claim [[16]] 10 wherein the

2 unstructured data comprises well-formed XML documents stored within the column of the table

3 stored in the database.

1   18. (Currently amended): A computer program product having a computer-

2 readable storage medium storing a set of code modules which when executed by a processor of a

3 computer system cause the processor to search unstructured data stored in a database, the

4 computer program product comprising:

5   code for storing a plurality of electronic records in a common repository of

6 electronic records in the database that provides an audit trail that cannot be altered or disabled by

7 users associated with the database , wherein each electronic record comprises unstructured data

8 stored in a character large-object (CLOB) format in a column of a table of the database;

9   code for generating a first graphical user interface and displaying the first

10 graphical user interface on a display device, the first graphical user interface configured to

11 enable a user to identify one or more reference to sections of unstructured data within the

12 plurality of electronic records stored in the database as elements of security rules;

13   code for receiving information from a user via the first graphical user interface

14   identifying a reference to a section of unstructured data within an electronic record as an element

15   of one or more security rules;

16   code for generating the one or more security rules in response to the information

17   from the user input identifying one or more elements the reference to a section of [[in]]

18   unstructured data within the electronic record as an element[[s]] of the one or more security

19   rules;

20   code for creating a security protocol that protects the plurality of electronic

21   records stored in the database against unauthorized access based on the one or more security

22   rules;

23   code for creating a query designed to identify a set of electronic records stored in

24   the database that meet criteria designated in the query;

25   code for modifying the query in accordance with the security protocol to create a

26   modified query prior to executing the query, the modified query including the reference to a

27   section of unstructured data within the electronic document identified by the user as an element

28   of the one or more security rules; and

29   code for running the modified query against the unstructured data of the plurality

30   of electronic records stored in the database.

1   19. (Currently amended): The computer program product of claim 18 further

2   comprising:

3   code for generating a second graphical user interface and displaying the second

4   graphical user interface on the display device, the second graphical user interface configured to

5   enable a user to identify one or more references to sections of unstructured data within the

6   plurality of electronic records stored in the database as elements of an intermediate index that

7   indirectly indexes into one or more of the sections of unstructured data within the plurality of

8   electronic records;

9   code for ~~allowing~~ <u>receiving information from</u> a user ~~to identify~~ <u>via the second</u>

10   <u>graphical user interface identifying</u> [[the]] one or more ~~elements~~ <u>references to sections of</u> ~~in the~~

11   unstructured data <u>of the electronic record</u> as indexed elements <u>of the intermediate index</u>; and

12   code for ~~allowing a user to generate~~ <u>generating</u> the one or more security rules

13   based on the indexed elements <u>of the intermediate index</u>.

1   20. (Currently amended): The computer program product of claim [[19]] <u>18</u>

2   further comprising:

3   code for automatically granting access to electronic records in the database unless

4   the security protocol restricts such access[[,]]<u>;</u>

5   wherein the security protocol comprises a plurality of security rules that restrict

6   access to the electronic records within the database <u>based on content of one or more sections of</u>

7   <u>unstructured data within the electronic records whose corresponding references are identified as</u>

8   <u>elements of the plurality of security rules</u>.

1   21. (Currently amended): The computer program product of claim [[19]] <u>18</u>

2   further comprising:

3   code for automatically denying access to electronic records in the database unless

4   the security protocol grants such access[[,]]<u>;</u>

5   wherein the security protocol comprises a plurality of security rules that grant

6   access to the electronic records within the database <u>based on content of one or more sections of</u>

7   <u>unstructured data within the electronic records whose corresponding references are identified as</u>

8   <u>elements of the plurality of security rules</u>.

1   22. (Currently amended): The computer program product of claim 18 wherein

2   the plurality of electronic records are generated from multiple data sources <u>prior to committing a</u>

3   <u>database transaction to the database and in response to intercepting data from the non-committed</u>

4   <u>database transaction</u>.

1   23. (Previously Presented): The computer program product of claim 18 wherein

2   one or more fields of an electronic record in the plurality of electronic records are filled with

3   XML data based on a predefined mapping of the fields to multiple data sources.

           24. (Canceled)

1   25. (Previously Presented): The computer program product of claim 18 wherein

2   the unstructured data comprises well-formed XML documents stored within the column of the

3   table stored in the database.

1   26. (Currently amended): A method for searching electronic records stored in a

2   common repository in a database that provides an audit trail that cannot be altered or disabled by

3   users associated with the database, wherein each electronic record comprises a well-formed

4   XML document stored in a character large-object (CLOB) format in a column of a table of the

5   database, the method comprising:

6   displaying a first graphical user interface on a display device, the first graphical

7   user interface configured to enable users to designate XML tags within XML documents

8   associated with the plurality of electronic records stored in the database for use as secure

9   elements of security rules;

10   receiving input via the first graphical user interface identifying an XML tag

11   element within at least one an XML document associated with a first electronic record as an

12   security a secure element of a security rule;

13   displaying a second graphical user interface on the display device, the second

14   graphical user interface configured to enable users to associate XML tags designated for use as

15   secure elements with events;

16   receiving input via the second graphical user interface associating the XML tag

17   within the XML document with a first event;

18   displaying a third graphical user interface on the display device, the third

19   graphical user interface configured to enable users to create security rules for events;

20   receiving input via the third graphical user interface creating a security rule

21   identifying the first event and having the XML tag as a secure element;

22   generating a security protocol based on the security rule, the security protocol

23   protecting access to the first electronic record based on content within the XML document that

24   corresponds to the XML tag designated as a secure element of the security rule;

25   receiving a query designed to identify XML documents a set of electronic records

26   from the electronic records stored in the database that meet satisfy criteria designated in the

27   query;

28   prior to executing the query, modifying the query in accordance with the security

29   protocol to create a modified query that includes the XML tag from the security rule; and

30   generating information indicative of executing the modified query against the

31   electronic records stored in the database at least one XML document.